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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/711,396 | 09/16/2004 | Emmanuel Rioufol | 68.0504 | 5395 |

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| EXAMINER | |
|---|---|
| COY, NICOLE A | |
| **ART UNIT** | **PAPER NUMBER** |
| 3672 | |

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/711,396 | RIOUFOL ET AL. | |
| | Examiner | Art Unit | |
| | Nicole Coy | 3672 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *23 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/16/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Objections*

1. Claims 6 and 7 are objected to because of the following informalities: There is no antecedent basis for "the source" in claims 6 and 7, as claim 1 does not mention "a source." Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7, 9-12, 14-17, 19-22, 24, 25, 27, 29-33, 35, 38, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Tubel et al. (US 2003/0131990).

With respect to claim 1, Tubel et al. discloses a method for use in a well, comprising: measuring a characteristic of a supply (see page 5 paragraph [0053]); measuring the characteristic (see page 5 paragraph [0053]) in or near a downhole tool (114; see also page 5 paragraph [0054]) and spaced from the supply measurement (see page 5 paragraph [0053], wherein the plurality of sensors are spaced apart); comparing the measurements (see page 5 paragraphs [0049] and [0055]).

With respect to claim 2, Tubel et al. discloses verifying a function of the downhole tool (114) using the comparison (see page 2 paragraph [0012]).

With respect to claim 3, Tubel et al. discloses verifying that the downhole tool has set using the comparison (see page 2 paragraphs [0012] and [0015]).

With respect to claim 4, Tubel et al. discloses verifying that a fluid from the supply is reaching the downhole tool (see paragraph [0053], wherein the sensor is measuring pressure which inherently shows whether the supply is reaching the downhole tool).

With respect to claim 5, Tubel et al. discloses measuring a characteristic within the downhole tool (114) using a sensor (120) that is external to the downhole tool (see figure 2).

With respect to claim 6, Tubel et al. discloses that the source is a downhole source (see figure 2).

With respect to claim 7, Tubel et al. discloses that the source is positioned at a surface of the well (see figure 2).

With respect to claim 9, Tubel et al. discloses that the step of measuring the characteristic in or near the downhole tool (114) is performed using a sensor (12) located externally to the downhole tool (see figure 2).

With respect to claim 10, Tubel et al. discloses that the step of measuring the characteristic in or near the downhole tool (114) comprises measuring the characteristic in a control line (110) that is in fluid communication with the downhole tool (see figure 2).

With respect to claim 11, Tubel et al. discloses that the step of measuring the characteristic of the supply is performed using a first sensor (120) and the step of

measuring the characteristic in or near the downhole tool is performed using a second sensor (120; see figure 2 wherein there are multiple sensors).

With respect to claim 12, Tubel et al. discloses measuring the characteristic of the supply with the second sensor (120; see figure 2 and page 2 paragraph [0012]).

With respect to claim 14, Tubel et al. discloses that the characteristic is pressure (see page 5 paragraph [0053]).

With respect to claim 15, Tubel et al. discloses deploying mitigation measures based upon the comparison (see page 2 paragraph [0012]).

With respect to claim 16, Tubel et al. discloses inserting the downhole tool (114), comprising a hydraulically set packer connected to a tubing (see page 5 paragraph [0054], wherein 114 is connected to tubing 108), into the well (102); providing fluid communication from an interior of the tubing to a setting chamber of the packer via a packer setting line (110); the measuring a characteristic of the supply step comprising measuring a pressure of the interior of the tubing near an inlet to the packer setting line (see figure 2, wherein sensor 120 measures pressure).

With respect to claim 17, Tubel et al. discloses measuring the pressure in the packer setting line (110; see figure 2, wherein sensor 120 measures pressure in setting line 110).

With respect to claim 19, Tubel et al. discloses measuring a tubing pressure via the packer setting line (110; see page 2 paragraph [0017]).

With respect to claim 20, Tubel et al. discloses that the downhole tool is hydraulically actuated (see page 5 paragraph [0053]).

With respect to claim 21, Tubel et al. discloses that the downhole tool is a packer (see page 5 paragraph [0053]).

With respect to claim 22, Tubel et al. discloses a sensor system of one or more sensors (120; see figure 2) adapted to measure a characteristic of a supply (see page 5 paragraph [0053]) and adapted to measure the characteristic in or near a downhole tool at a position that is spaced from the supply measurement (see figure 2, wherein there are multiple sensors spaced apart from each other).

With respect to claim 24, Tubel et al. discloses a first sensor (120) adapted to measure the characteristic of a supply (see page 5 paragraph [0053]); a second sensor (120) adapted to measure the characteristic in or near the downhole tool (114), the second sensor (120) measuring the characteristic at the position that is spaced from the supply measurement (see figure 2, wherein there are multiple sensors spaced apart from each other).

With respect to claim 25, Tubel et al. discloses that the second sensor (120) is positioned external to the downhole tool (see figure 2).

With respect to claim 27, Tubel et al. discloses a control line (110) in fluid communication with the downhole tool (114) and the supply (130); the second sensor (120) is adapted to measure the characteristic in the control line (see page 5 paragraph [0053]).

With respect to claim 29, Tubel et al. discloses that the second sensor (120) is further adapted to measure the characteristic of the supply (see page 5 paragraph [0053]).

With respect to claim 30, Tubel et al. discloses that the source is a downhole source (see figure 2).

With respect to claim 31, Tubel et al. discloses that the characteristic is pressure (see page 5 paragraph [0053]).

With respect to claim 32, Tubel et al. discloses that the one or more sensors are pressure gauges (see page 5 paragraph [0053], wherein a pressure sensor is a pressure gauge).

With respect to claim 33, Tubel et al. discloses a completion tubing (108); the downhole tool (114) comprises a packer (see page 5 paragraph [0053]) connected to the completion tubing (see figure 2), the packer having a setting chamber (wherein packers inherently have setting chambers.

With respect to claim 35, Tubel et al. discloses a packer setting line (110) in fluid communication the packer setting chamber (see figure 2); the sensor system comprises a sensor (120) adapted to measure the characteristic in the packer setting line (see figure (see page 2 paragraph [0012]).

With respect to claim 38, Tubel et al. discloses a well completion system, comprising: a completion tubing (108); a packer (114) connected to the completion tubing (see figure 2), the packer having a setting chamber therein (wherein the packer inherently had a setting chamber); a packer setting line (110) providing fluid communication between the completion tubing and the packer setting chamber (see figure 2); a pressure gauge (120) adapted to measure a pressure in the packer setting line (see figure 2; wherein a pressure gauge is a pressure sensor).

With respect to claim 39, Tubel et al. discloses a second pressure gauge (120) adapted to measure a pressure in the completion tubing (see page 2 paragraph [0017]).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 8, 18, 26, 28, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel et al. in view of Schultz et al. (US 2004/0060696).

With respect to claims 8 and 26, Tubel et al. does not disclose that the step of measuring is performed using a sensor located within the downhole tool. However, Schultz et al. teaches embedding sensors in a packer in order to monitor how the packer elements react to the packer setting operation and, after the packer is installed, how the various downhole conditions affect the packer. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Tubel et al. by including sensors in the packer as taught by Schultz et al. in order to monitor how the packer element reacts to the packer setting operation and how the various downhole conditions affect the packer.

With respect to claims 18 and 34, Tubel et al. does not disclose that the step of measuring is performed using a sensor located in the setting chamber of the packer. However, Schultz et al. teaches embedding sensors in setting chamber of a packer in

order to monitor how the packer elements react to the packer setting operation and, after the packer is installed, how the various downhole conditions affect the packer. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Tubel et al. by including sensors in the setting chamber of the packer as taught by Schultz et al. in order to monitor how the packer element reacts to the packer setting operation and how the various downhole conditions affect the packer.

With respect to claim 28, Tubel et al. does not disclose that the step of measuring is performed using a sensor located in the internal chamber of the packer. However, Schultz et al. teaches embedding sensors in internal chamber of a packer in order to monitor how the packer elements react to the packer setting operation and, after the packer is installed, how the various downhole conditions affect the packer. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Tubel et al. by including sensors in the internal chamber of the packer as taught by Schultz et al. in order to monitor how the packer element reacts to the packer setting operation and how the various downhole conditions affect the packer.

6. Claims 13, 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tubel et al.

With respect to claims 13 and 23, Tubel et al. is silent as to the type of sensors used. However, differential sensors are well known sensors in the wellbore art. It would have been obvious to one having ordinary skill in the art at the time of the

invention to use a differential sensor in order to measure the difference in a characteristic of a well.

With respect to claim 36, Tubel et al. discloses a lower completion in the well (see figures 1 and 2); an upper completion above the lower completion (see figures 1 and 2); an isolation system between and in fluid communication with the lower completion and the upper completion, the isolation system is adapted to selectively fluidically isolate the lower completion from the upper completion (see figures 1 and 2); the upper completion comprising: a packer comprising the downhole tool (114), the packer having a setting chamber therein (wherein the packer inherently has a setting chamber); a gauge mandrel below the packer that has the one or more sensors therein (see figure 2, wherein sensor line is below the packer 114); a packer setting line in fluid communication with the setting chamber of the packer and an interior passageway of the upper completion at a position below the in-line control valve (see figure 2); a pressure sensor (120) in the gauge mandrel in fluid communication with the packer setting line (110) adapted to measure a pressure in the control line (see figure 2). Tubel et al. does not disclose an annular control valve below the gauge mandrel and an in-line control valve below the annular control valve. However, it is well known in the art to include annular control valves and in-line control valves in completion systems. Thus, it would have been obvious to one having ordinary skill in the art to include an annular control valve and an in-line control valve.

With respect to claims 37, Tubel et al. teaches a pressure sensor (120) in the gauge mandrel in fluid communication with the interior passageway of the upper completion (114) at a position below the in-line control valve (see figure 15).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Coy whose telephone number is 571-272-5405. The examiner can normally be reached on M-F 8:00-5:30, 1st F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

nac

William Neuder
Primary Examiner